

IN THE CLAIMS:

(Additions are represented by underlining and deletions are represented by either strikethroughs or double brackets.)

Please amend the claims as follows:

1. (Currently amended) A monitoring system comprising:
  - (a) ~~A a first and second~~ device for monitoring and reporting at least one parameter of an electric circuit, said first device comprising:
    - (1) at least one sensor coupled with said electric circuit and operative to sense at least one electrical parameter in said electric circuit and generate at least one analog signal indicative thereof,
    - (2) an analog to digital converter coupled with said at least one sensor and operative to convert said at least one analog signal to at least one digital signal representative of said at least one analog signal,
    - (3) a processor coupled with said analog to digital converter and operative to generate at least one computed value from said at least one digital signal,
    - (4) a local display coupled with said processor and operative to report said at least one computed value, and
    - (5) a communications port coupled with said processor and a digital network and operative to facilitate reporting of said at least one computed value onto said digital network; and

wherein the system further comprises:

- (b) a summing module coupled with said digital network, said summing module operative to receive said at least one computed value from said first device digital network and receive at least one second value from a second device, said second device different from said first device, wherein said summing module is further operative to further sum said at least one computed value and said second value to second at least one third value.

2. (Previously presented) The system of claim 1 further comprising a multiplexer coupled between said at least one sensor and said analog to digital converter.
3. (Previously presented) The system of claim 1, wherein said analog to digital converter comprises first and second analog to digital converters, said first analog to digital converter being operative to convert a voltage analog signal to at least one digital sample and said second analog to digital converter being operative to convert a current analog signal to at least one digital sample.
4. (Previously presented) The system of claim 1, wherein said local display is operative to display said at least one electrical parameter.
5. (Previously presented) The system of claim 1, further comprising a time synchronization receiver, said processor operative to receive a first time synchronization signal from said time synchronization receiver and further operative to alter a timing clock signal based on said first time synchronization signal.
6. (Previously presented) The system of claim 5 further comprising a local synchronization circuit, said local synchronization circuit operative to output said timing clock signal to said processor.
7. (Previously presented) The system of claim 5, wherein said first time synchronization signal comprises a network time signal.
8. (Previously presented) The system of claim 5, wherein said first time synchronization signal comprises a second time synchronization signal from a second device coupled with said digital network.
9. (Previously presented) The system of claim 8, wherein said second time synchronization signal from said second device is transmitted to a plurality of devices coupled with said digital network.
10. (Previously presented) The system of claim 5, wherein said time synchronization receiver comprises a GPS receiver wherein said GPS receiver is operative to receive a GPS signal.

11. (Previously presented) The system of claim 10, wherein said GPS receiver wirelessly receives said GPS signal.
12. (Previously presented) The system of claim 5, wherein said first time synchronization signal is computed from a fundamental line frequency computation of said electric circuit.
13. (Previously presented) The system of claim 1 further comprising a remote module, said remote module operative to allow a second device to remotely connect to said device over said digital network.
14. (Previously presented) The system of claim 13, wherein said second device comprises at least one computer.
15. (Previously presented) The system of claim 13, wherein said second device comprises a meter.
16. (Previously presented) The system of claim 13, wherein said second device comprises a protection device.
17. (Previously presented) The system of claim 13, wherein said second device further comprises a second remote module, said second remote module operative to allow said device to remotely connect to a third device over the digital network.
18. (Previously presented) The system of claim 13, wherein said second device comprises a circuit breaker, said circuit breaker comprising a second communications port coupled with said digital network.
19. (Previously presented) The system of claim 1, wherein said digital network comprises an Ethernet network, said communications port comprising an Ethernet port.
20. (Previously presented) The system of claim 1, wherein said digital network comprises a digital data transmission network.

21. (Previously presented) The system of claim 1, wherein said digital network comprises a Transmission Control Protocol/Internet Protocol (“TCP/IP”) communications network.
22. (Previously presented) The system of claim 1, wherein said digital network comprises a fiber optic data communications network.
23. (Previously presented) The system of claim 1 further wherein said processor is operative to receive said at least one digital signal and provide digital data representative of said at least one electrical parameter.
24. (Previously presented) The system of claim 23 further wherein said device is operative to transmit said digital data onto said digital network.
25. (Previously presented) The system of claim 23, wherein said digital data is transmitted in substantially real time.
26. (Previously presented) The system of claim 1, said processor further comprising an inverse current module, said inverse current module operative to determine a fault condition on said electric circuit.
27. (Currently Amended) The system of claim 26, wherein said fault condition is determined by calculating the square of the current multiplied by the duration as expressed by the equation  $I^2T$ .
28. (Previously presented) The system of claim 1, wherein said device is further coupled with at least a second electric circuit, said device operative to perform an overcurrent protection function.
29. (Previously presented) The system of claim 1 further comprising at least one second communication port.
30. (Previously presented) The system of claim 29, wherein said at least one second communication port comprises an Ethernet port.
31. (Currently amended) The system of claim 29, wherein said at least one second communication port is coupled with a second third device.

32. (Previously presented) The system of claim 1 further comprising a second communication port coupled with said digital network and a third communication port coupled with said digital network.

33. (Previously presented) The system of claim 32, wherein said second communication port and said third communication port each comprise at least one RS232 port.

34. (Previously presented) The system of claim 32, wherein said second communication port and said third communication port comprise at least one RS485 port.

35. (Previously presented) The system of claim 32, wherein said second communication port comprises an RS232 port and said third communication port comprises a RS485 port.

36. (Previously presented) The system of claim 1 wherein said communications port further is operative to scale said digital network for communications among a plurality of said device for monitoring and reporting at least one parameter of an electric circuit, without substantially degrading real time communications among any at least two of said device for monitoring and reporting at least one parameter of an electric circuit.

37. (Previously presented) The system of claim 1, wherein said communications port enables centralized simultaneous knowledge of a status of a plurality of said device for monitoring and reporting at least one parameter of an electric circuit.

38. (Currently Amended) The system of claim 1, wherein said communications port enables substantially simultaneous real time reporting of said at least one computed value over said digital network from a plurality of said devices without any one of said plurality of devices waiting for another one of said plurality of devices.

39. (Previously presented) The system of claim 1, wherein said digital network comprises a wireless network.

40. (Previously presented) The system of claim 1, wherein said communication port is further operative to communicate with substantially simultaneous connections with a plurality of power monitoring devices over said digital network.
41. (Previously presented) The system of claim 1, wherein said summing module comprises a phasor summing module.
42. (Previously presented) The system of claim 1, wherein said summing module is coupled with said processor.